



# UNITED STATES PATENT AND TRADEMARK OFFICE

ATTJ  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/502,258	02/11/2000	Christoph Wuersch	32396	4922
116	7590	02/09/2005	EXAMINER	
			NI, SUHAN	
			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/502,258	WUERSCH, CHRISTOPH
	<b>Examiner</b>	<b>Art Unit</b>
	Suhan Ni	2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 14 October 2004.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-3,5,6,8-10 and 12-16 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,3,6,8-10 and 12-16 is/are rejected.

7) Claim(s) 2 and 5 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

**DETAILED ACTION**

1. This communication is responsive to the applicant's amendment dated 10/14/2004.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1, 3, 6, 8-10 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leedom et al. (U. S. Pat - 6,389,143) in view of Husung (U. S. Pat. - 5,809,151).

Regarding claims 1, 8-9 and 13-14, Leedom et al. disclose a microphone system (Fig. 14) for hearing aid, the microphone being encapsulated in an electromagnetic shielding case (1410) forming a shielded microphone system unit. But Leedom et al. do not clearly teach subsequent signal processing components as claimed. Husung discloses a similar structured hearing aid comprising a plurality of subsequent signal processing components (6-8) for acoustic signal process with an IC shielding element (15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide a suitable subsequent signal processing components with shielding element taught by Husung, and closely engages it to the microphone system of the hearing aid as an alternate choice, in order to provide a more desirable hearing aid having further reduced noises. Furthermore, neither Leedom et al. nor Husung teach an ADC as claimed. Since providing any suitable signal process components, such as an ADC, for a digital hearing aid is very well known in the art, it there

would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide all necessary signal processing components, such as an ADC, AMP and DAC for the hearing aid for providing a more desirable hearing aid having more advanced DSP technology.

Regarding claim 3, in view of the rejection of claim 1, wherein the microphone system and the signal processing components, may be detachably combined in modular manner.

Regarding claim 6, neither Leedom et al. nor Husung clearly show at least two microphones for dual channel signal processing as claimed. Since providing a dual or multi channel signal processing in hearing aid, especially with more than one microphone is very well known in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide at least two microphones and signal processing channels for the hearing aid, in order to enhance the performance of the hearing aid, such as directional capability.

Regarding claims 10, 12 and 15-16, neither Leedom et al. nor Husung clearly teach a shielding structure as claimed. Since neither Leedom et al. nor Husung specially restrict any shielding structure or techniques, and providing a flexible sheet coated with EM shielding material for a shielding element is very well known in the art, and also widely commercially available, it therefore would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide a suitable electromagnetic shielding structure for the microphone system and the circuitry elements of the hearing aid as an alternate choice, for further effectively and efficiently reducing electromagnetic noises.

***Allowable Subject Matter***

3. Claims 2 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Amendment***

4. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

5. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

6. Any response to this final action should be mailed to:

**Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450**

or faxed to:

**(703) 308-9051**, (for formal communications; please mark "EXPEDITED PROCEDURE"), or

**(703) 305-9508**, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to:

**Receptionist, Sixth Floor,  
Crystal Park II,  
2121 Crystal Drive,  
Arlington, Virginia 22202**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is **(703)-308-9322**, and the number for fax machine is **(703)-305-9508**. The examiner can normally be reached on Monday through Thursday from 9:00 am to 7:30 pm. If it is necessary, the examiner's supervisor, **Curtis Kuntz**, can be reached at **(703) 305-4708**.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (**PAIR**) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is **(703) 305-3900**.

SN

February 5, 2005

  
**SUHAN NI**  
**PRIMARY EXAMINER**